

Invasive Insects and Diseases Taking a Toll

By Gary Coroneos

More than 400 species of non-native invasive forest insects and diseases are established in the United States. Some of these insects and diseases have become invasive and are spreading rapidly, causing significant economic and ecological impacts to the nation's forests and urban trees. Some of the insects and diseases below have already made their impact on northeast Wisconsin, and some are still coming.

Dutch elm disease

American elm was once widely distributed throughout the eastern United States and was a preferred tree for city streets and the yards of many homeowners. Dutch elm disease was introduced into the United States in Cleveland and Cincinnati, Ohio in 1930 and spread to destroy millions of American elm trees in urban and forested landscapes.

Gypsy moth

Gypsy moth caterpillars have defoliated oak and mixed hardwood forests, spreading from Boston, where it was accidentally introduced around 1869. Because the adult females are flightless, the line of the advance moves annually only as far as the young caterpillars can "parachute" in the wind or the eggs are moved around by human activities.

Oak wilt

Oak wilt is caused by an exotic fungus. It is one of the most serious diseases of oaks in the Midwest and kills tens of thousands of oak trees every year.

Asian longhorned beetle

The Asian longhorned beetle arrived here as larvae boring in solid wood packing material from China. The first beetles were detected in trees in several suburban towns on Long Island and in Brooklyn, Manhattan and Chicago. These outbreaks have triggered major eradication efforts that include inspection of all trees in designated quarantine areas.

Chestnut blight

In the 1930s, chestnut blight spread quickly through Virginia, after its introduction to New York in 1904. This disease altered Appalachian forests where American chestnut was dominant. Now very few American chestnuts survive in the United States.

Hemlock woolly adelgids

The hemlock woolly adelgid is a tiny sap sucker insect first noted in the eastern United States around 1950 on nursery stock in Richmond, Virginia. In the late 1980s, the spread rate took off and now has spread through the Smokey Mountains and southern Maine. A heavily infected hemlock usually dies in five to seven years.

Butternut canker

Butternut canker is killing butternut and threatening the future of this important hardwood species throughout its range in North America.

Emerald ash borer

Emerald ash borer, an exotic pest relatively new to North America, attacks and kills ash species growing here. It probably first entered Michigan at least ten years ago, presumably in solid wood packing materials from China. It has spread to many states and Canada. It is estimated that 200 million ash have been killed to date. Because ash species were planted in many urban areas as replacements for elms that were killed by Dutch elm disease, many of our streets and yards are again sadly bare.

Sudden oak death

Sudden oak death is a non-native fungal disease that is killing oaks in California and Oregon. It is also infecting a large number of shrub species but not killing them. Unfortunately, some of these shrubs are grown commercially in those areas and have brought the disease to the East Coast as well. Oak species are a major component of Eastern and Midwestern hardwood forests, and the host shrubs mentioned earlier are common understory plants in these forests.

Beech bark disease

Beech bark disease has been deforming and killing American beech trees in the eastern United States since the 1930s. A beech scale insect first attacks the bark, creating a wound that provides an entry way for the two different fungi to invade the tree. The fungus grows and kills the living tissue under the outer bark, resulting in cankers that eventually girdle and kill the tree.

Thousand canker disease

Thousand canker disease is causing dieback and mortality of eastern black walnut in several western states and has become more common and severe during the last decade. A tiny beetle creates numerous galleries beneath the bark of affected branches and the main stem, resulting in fungal infection and canker formation. The large numbers of cankers associated with dead branches and the stem suggest the disease's name.

The world is becoming a smaller place, and trying to keep damaging insects and diseases outside our borders is becoming more difficult. Through regulations and research, hopefully we can slow down the introduction of new invaders and slow the spread of current invaders.

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